

# Work Order ID 56294

February 17, 2010 2:26:10 PM



Page 1

Item ID:	D3220-042	Accept		Setup	Start	
Revision ID:					Stop	
Item Name:	Doubler Assembly					
Start Date:	2/17/10	Start Qty:	10.00		Cust Item ID:	
Required Date:	2/24/10	Req'd Qty:	10.00		Customer:	
Reference:						

Approvals:	Process Plan:		Date:	10-2-17	Tooling:		Date:		Run	Start	
	QC:		Date:		SPC (Y/N):		Date:			Stop	

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3220	B								
100	FLOW WATER JET	0.00							
	Waterjet								
FLOW CNC Waterjet	Memo	0.00							
	1-Cut D3220-2 as per Dwg D3220								
	Dwg Rev:								
	Prog Rev:								
	2-Deburr if necessary								
110	QC2- Inspect parts off machine FAI/FAIB	0.00							
	QC								
Quality Control	Memo	0.00							

B 10-2-24

14

B 10-2-24

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 56294**

February 17, 2010 2:26:10 PM

Page 2

Item ID: D3220-042

Accept

Revision ID:

Item Name: Doubler Assembly

Start Date: 2/17/10 Start Qty: 10.00

Required Date: 2/24/10 Req'd Qty: 10.00

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run HoursDraw  
NumberDraw  
Rev.Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

120

QC8- Inspect parts - second check

0.00



QC

Memo

0.00

8/10/24

414

Quality Control

130

Small Fab

0.00



Small Fab

Memo

0.00

Small Fab

1-Deburr

2-C'sink D3220-2 as per Dwg D3220

8/10/25 14

140

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

8/10/25

414

-048

Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 56294**

February 17, 2010 2:26:10 PM

Page 3

Item ID: D3220-042

Accept

Setup Start

Revision ID:

Stop

Item Name: Doubler Assembly

Start Date: 2/17/10 Start Qty: 10.00

Required Date: 2/24/10 Req'd Qty: 10.00

Cust Item ID:

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run HoursDraw  
NumberDraw  
Rev.Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

150

Chemical Conversion Coat per QSI005 4.1

0.00



HandFinish

Memo

0.00

MS 10/03/04

(XH) 0

Hand Finishing

160

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

BL 10-3-4

(14)

Quality Control

170

Small Fab

0.00



Small Fab

Memo

0.00

Assemble D3220-042 doubler as per Dwg D3220

EP 10/03/08 (14)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 56294

February 17, 2010 2:26:10 PM



Item ID:	D3220-042	Accept		Setup	Start	
Revision ID:					Stop	
Item Name:	Doubler Assembly					
Start Date:	2/17/10	Start Qty:	10.00		Cust Item ID:	
Required Date:	2/24/10	Req'd Qty:	10.00		Customer:	
Reference:						

Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start	
	QC:	Date:	SPC (Y/N):	Date:		Stop	

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180 	QC5- Inspect part completeness to step on W/O	0.00							
QC Quality Control	Memo	0.00				(1/4)			
						-042			
190 	Identify as per dwg & Stock Location: <u>177</u>	0.00							
Packaging Packaging	Memo	0.00							
200 	QC21- Final Inspection - Work Order Release	0.00							
QC Quality Control	Memo	0.00							

10/03/11  
 MF  
 10-3-9

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

February 17, 2010 2:26:15 PM

Page 1

Work Order ID: 56294

Parent Item: D3220-042

Parent Item Name: Doubler Assembly

Comments: IPP Rev:A New Issue 05-11-06 JLM  
IPP: B 06.11.15 waterjet EC

Start Date: 2/17/10

Required Date: 2/24/10

Start Qty: 10.00

Required Qty: 10.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
M2024T3S.050		Purchased	No			100	sf	138.1533	7.2905	11,		



2024-T3 .050 sheet

WS 10-2-24

Warehouse Location	Loc Qty	Loc Code
-----------------------	---------	----------

Main Warehouse

MAT

138.1532842

111381

36.3165842

112291

56.5367

113189

45.3

112291

14

MS20426AD3-3

Purchased

No

170

Each

5,899.000

80.0000



Rivet



9/5/03/08

Warehouse Location	Loc Qty	Loc Code
-----------------------	---------	----------

Main Warehouse

ST

5899

1563

0

19099

4776

7681

1123

112

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

February 17, 2010 2:26:15 PM

Work Order ID: 56294



Parent Item: D3220-042



Parent Item Name: Doubler Assembly

Start Date: 2/17/10

Required Date: 2/24/10

Comments: IPP Rev:A New Issue 05-11-06 JLM  
IPP: B 06.11.15 waterjet EC

Start Qty: 10.00

Required Qty: 10.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
MS21059L4		Purchased	No			170	Each	165.0000	40.0000			



Nutplate



*Ep 10/03/08*

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

165

102959

4

112082

3

112243

158

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
*56*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



Item	Qty -041	Qty -042	Part Number	Description
1	X		D3220-041	DOUBLER ASSEMBLY
2		X	D3220-042	DOUBLER ASSEMBLY
3	1		D3220-1	DOUBLER
4		1	D3220-2	DOUBLER
5	4	4	MS21059L4	NUTPLATE
6	8	8	MS20426AD3-3	RIVET

B  
MS21059L4 NUTPLATE  
MS20426AD3-3 RIVET, 2X  
4 PL

6

D3220-1/2 DOUBLER

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 56294  
BJ10-2-17

**RELEASED**  
2009-09-09

**D3220-041 DOUBLER ASSEMBLY (SHOWN WITH D3220-1 DOUBLER)  
D3220-042 (OPPOSITE)**

**NOTES:**

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3220-04X" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: D3220-041 = 0.53 lbs  
D3220-042 = 0.53 lbs

B	DRAWING UPDATED TO CURRENT STANDARDS. Ø0.316 WAS Ø0.323 (ZN C8-2, B4-3); MS20426AD3-3 WAS MS20426AD3-4 (ZN D4-1); CORRECT TYPO NOTE 1 (ZN A8-2, A8-3); REF PAR 09-025	RF	09.07.08
A	NEW ISSUE	CP	03.10.16
REV.	DESCRIPTION	BY	DATE
DESIGN	DS	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED		DRAWING NO.	REV. B
MFG. APPR.		D3220	SHEET 1 OF 4
APPROVED		TITLE	SCALE
DE APPR.		DOUBLER	NTS
DATE	09.07.08	COPYRIGHT © 2003 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

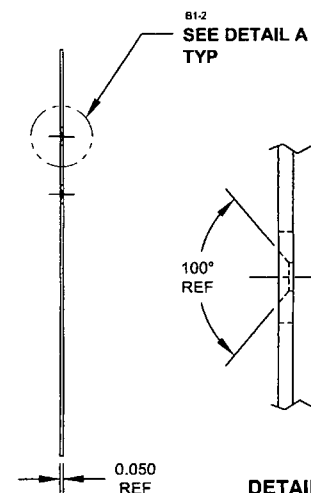
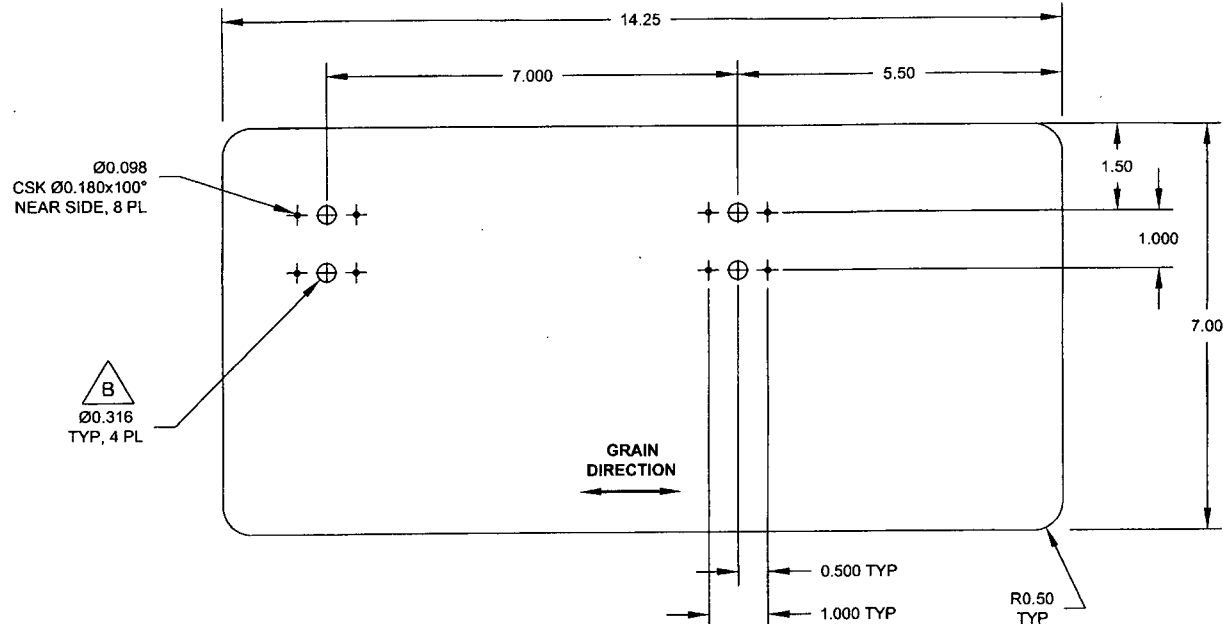
8 7 6 5 4 3 2 1

D

C

B

A



DETAIL A 02-2  
SCALE 5X

# **D3220-1 DOUBLER**

**RELEASED**  
2009-09-08  
MD



## **NOTES:**

- 1) MATERIAL: 2024-T3 ALUMINUM SHEET, 0.050 THICK  
REF DART SPEC. M2024T3S.050
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3220-1" USING REMOVABLE TAG
- 7) WEIGHT: 0.50 lbs

DESIGN	DS	<b>DART AEROSPACE LTD</b>	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	JP	DRAWING NO.	REV. B
MFG. APPR.	JP	D3220	SHEET 2 OF 4
APPROVED	JP	TITLE	SCALE
DE APPR.	JP	DOUBLER	NTS
DATE	09.07.08	COPYRIGHT © 2003 BY DART AEROSPACE LTD	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.			

8 7 6 5 4 3 2 1

